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Measure Information Template

*California Building Energy Efficiency Standards
Revisions for July 2003 Adoption*

NAIMA Proposed Measure: Reevaluate prescriptive Residential U-factors

November 5, 2001

Description

Recent AB970 changes to the Standards did not include consideration of the prescriptive U-factors for insulation and fenestration products. We suggest that an evaluation of current prescriptive U-factors may warrant raising them to a realistic cost-effective level.

Benefits

Review of Residential prescriptive U-factors will ensure that the Standards are cost effective and in keeping with the mandate of AB970 to reduce California's electric demand. In addition, improvements to the Residential prescriptive measures will provide gas savings as well.

Energy consumption is exceeding the state's ability to provide sufficient energy resources to all sectors of the economy and buildings consume 70% of our state energy resources. By increasing the energy efficiency levels of envelope measures in the prescriptive packages, particularly Package D which is used to set the standard design energy budget, significant energy savings and reduced demand can be achieved.

It is well documented that no other investment shows such positive long-term returns as energy efficiency measures that go beyond current construction practice or code requirements. Improving the energy efficiency levels of Package D can have a substantial impact on reducing energy demand and costs while improving the building's thermal comfort.

Environmental Impact

No adverse impact is expected from raising the U-factors of envelope measures required by the Standards.

Type of Change

Revised U-factors would be implemented by changing the prescriptive package D requirements in Section 151 Tables 1-Z1 through 1-Z16.

Measure Availability and Cost

This measure will require no new products, technologies, design strategies or installation techniques. The products necessary to meet modified U-factors are readily available.

Useful Life, Persistence and Maintenance

Modified prescriptive U-factors would have no impact on product life, persistence or maintenance since the modification would require additional use of products already employed.

Performance Verification

No new tools or methods are required to ensure or verify performance of the proposed measure. Changes may be necessary to the ACM.

Cost Effectiveness

Cost effectiveness analysis will determine the extent of modifications to the prescriptive building U-factors.

Analysis Tools

No new tools are required to quantify energy savings and peak electricity demand reductions – the current reference method is adequate. The applicant may submit data on estimated savings and demand reductions.

Relationship to Other Measures

This proposal will have no bearing on other measures.

Bibliography and Other Research

We recommend a review of the Energy Star Home requirements as a basis for comparison with current and future prescriptive building envelope U-factor measures.